AF/2856

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

OIPE
AUG 18 2003
PATENT & TRADEMARK OFFICE
JC98

In re Application of)
)
Ralf Reimelt et al) Art Unit: 2856
)
Appln. No. : 09/899,502) Ex: R. Frank
)
Filed : July 6, 2000)
)
For : APPARATUS FOR DETERMINING AND/OR)
MONITORING THE FILLING LEVEL....)

#15 EOT 88 time 2 mos Appeal 8/18/03

BRIEF ON APPEAL (3 COPIES)

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are three (3) copies of a Reply Brief on Appeal in the above identified application.

1. ( ) An Oral Hearing is requested.
2 ( ) An Oral Hearing is requested on _____.
3. (X) An extension of time for filing the Brief on Appeal
   (X) is hereby requested.
   ( ) was requested on _____.
4. ( ) A Verified Statement under 37 CFR 1.9 and 1.27
   ( ) is enclosed.
   ( ) is of record in this application.

The fee is calculated as follows:

	Large Entity	Small Entity	Amount
Filing Brief on Appeal	$320.00	$160.00	$320.00
Request for Oral Hearing	280.00	140.00	
Request for Extension of Time for Filing Brief			
( ) 1 month	110.00	55.00	
(X) 2 months	410.00	205.00	$410.00
( ) 3 months	930.00	465.00	
( ) 4 months	1,450.00	725.00	
( ) 5 months	1,970.00	985.00	

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TOTAL DUE: $730.00

5. ( ) No fee required.

6. (X) A check in the amount of $730.00 is enclosed. (Check No. 18192)

7. ( ) Please charge Deposit Account No. 10-1213 in the amount of $_____. A duplicate of this sheet is enclosed.

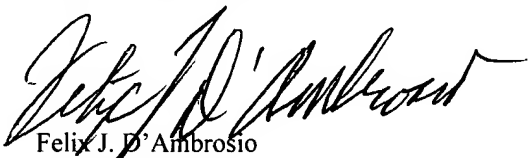
8. (X) The Commissioner is hereby authorized to charge payment of the following fees during the pendency of this application or credit any overpayment to Deposit Account No. 10-1213. A duplicate of this sheet is enclosed.

   (X) Any patent application processing fees under 37 CFR 1.17.

   ( ) The Issue Fee set in 37 CFR 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR 1.311(b).

   (X) Any filing fees under 37 CFR 1.16 for presentation of extra claims.

Respectfully submitted,



Felix J. D'Ambrosio
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August 18, 2003

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In re Application of	)
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For: APPARATUS FOR DETERMINING AND/OR MONITORING THE FILLING LEVEL OF A PRODUCT IN A CONTAINER	)

#16/Appeal Brief
8/28/03

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BRIEF ON APPEAL (3 COPIES)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the provisions of 37 CFR 1.192, submitted herewith is Applicant/Appellant's Brief on Appeal.

REAL PARTY IN INTEREST

Endress + Hauser GmbH + Co. hold the entire right, title and interest to this application and the invention described and claimed therein as a result of a assignment at Reel 012279 and Frame 0978.

RELATED APPEALS AND INTERFERENCES

No appeal is pending in any related application.

STATUS OF CLAIMS

Claims 13-31 are pending. (See: STATUS OF AMENDMENTS, below)

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STATUS OF AMENDMENTS

The claims on appeal were finally rejected on December 17, 2002. No response was made to this final rejection. Instead, this appeal was initiated by the Notice of Appeal filed April 17, 2003. The last amendment to the claims was made in the Response filed October 15, 2002. The status of the claims was set with this Response, and is reflected in the Appendix hereto.

SUMMARY OF THE INVENTION

(Reference is made to the pages and lines of the specification)

The invention relates to an apparatus for determining and/or monitoring the filling level of a product or the position of the interface between two media or phases in a container (page 1, lines 7-10). The apparatus includes a signal-generating unit 2, which generates high-frequency measuring signals, a coupling-in unit 3, a waveguide 5 and a receiving/evaluating unit 4 (page 9, lines 3-6). The high-frequency measuring signals are carried by the waveguide to the surface 8 of a product 7 in a container 6. Echo signals are reflected at the surface 8 and fed to the receiving/evaluating unit 4 via the coupling-in unit 3 (page 9, lines 5-7).

The waveguide 5 comprises twisted individual wires 10 all of similar diameter (page 9, lines 13-15). The individual wires are arranged in three layers 11, 12 and 13, with the layers 12 and 13 preferably being twisted in opposite directions in relation to one another (page 9, lines 16-18).

Alternatively, the waveguide 5 comprises a plurality of individual pieces (tubes, rods, etc.) 14, with successive pieces being connected to one another via a flexible intermediate piece 15. The flexible intermediate piece 15 can be, for example, a universal joint or a crimped

connection (page 9, lines 24-33). The flexible intermediate piece 15 is enclosed by a tubular mesh 17, which terminates essentially flush with the adjoining surface of the pieces 14 (page 9, lines 35-38).

ISSUES

(1)

Are claims 13-20 unpatentable under 35 USC 103(a) over Lütke et al in view of Feese?

(2)

Are claims 21-31 unpatentable under 35 USC 103(a) over Lütke et al in view of Backmann et al?

ARGUMENT

(1)

CLAIMS 13-20 ARE NOT UNPATENTABLE UNDER 35 USC 103(a) OVER LÜTKE ET AL IN VIEW OF FEESE

The examiner relies on Lütke et al for their teaching of a liquid level meter which comprises the elements claimed, except for "....a waveguide comprising a wire cable having a plurality of individual wires of a predetermined diameter twisted together." For this teaching, the Examiner relies on Feese. According to the examiner, Feese "....disclose a method of producing optical waveguides utilizing a method of twisting high tensile strength wires together."

To combine the teachings of Lütke et al and Feese, the Examiner states: "[t]he motivation to combine Lütke with Feese is in order to obtain another embodiment of the system disclosed in Lütke utilizing a transmission line made from a waveguide produced by the SZ-

twisted elements disclosed in Feese."

This statement of the Examiner necessarily assumes that the wires claimed which are twisted together are nothing more than the "SZ-twisted wire" of Feese. Not so. The SZ-twisted wire is wire that is twisted about its own axis. According to the present invention the wire is twisted as shown in Fig. 2, i.e., not about its own axis but about the axis of the cable. Feese teaches nothing of this type of twisting.

In the Examiner's Response to Arguments on page 4 of the Office Action, he states: "[t]he examiner....has assumed nothing, and the Feese reference meets the limitations of the claimed wire configuration and therefore satisfies the limitations as stated in the claims," citing Section 2111 of the MPEP.

But if the Examiner is applying Feese because in the Examiner's view Feese teaches "the limitations of the claimed wire configuration" and the claimed wire configuration states that it comprises "a plurality of individual wires of a predetermined diameter which are twisted together," then Feese must teach the "twisted together" feature. And, if it does not, then a priori, the Examiner is assuming the teaching. Section 2111 of the MPEP does not compel us to a different conclusion. The "broadest reasonable interpretation consistent with the specification" requires that the applied reference teach "a plurality of individual wires of a predetermined diameter which are twisted together" and nothing less or different.

If the claim recites that there are "a plurality of individual wires of a predetermined diameter which are twisted together," it is hard to see that "once issued, [the claims] will be interpreted more broadly..." Estoppel would prevent a broader interpretation. We should not be concerned during prosecution with post issuance matters.

On page 6 of the Office Action, the examiner states: "....that the features upon which applicant relies (i.e., the wire twisted about the axis of the cable and not its own axis) are not recited in the rejected claim(s)." In fact, the reference to "together" in claim 13 does precisely that, i.e., it makes it clear that the twisting is about the cable axis . The term "together" would nave no meaning if twisting about its own axis were intended.

Finally, it is noted that even if the teachings of Lütke et al and Feese are combinable, the result would be an arrangement other than the present invention. Would such an arrangement have the advantages of the present invention? It is not possible to tell from a reading of either reference. It is highly unlikely that it would, however, because a SZ-twisted wire is twisted not only about its own axis but because the twisting includes reversal points. One would expect to encounter disadvantages not unlike those noted on page 3 of the present specification.

In this regard the examiner states on page 7 of the Office Action that: "...the Feese reference shows a way to manufacture a conductive cable/waveguide formed from twisted wires, as stated by the applicant." Applicant/appellant respectfully disagrees. Feese does not, as noted above, disclose a waveguide wire "as stated by the applicant." The twisting is different and the difference is substantial. The examiner also states on page 7 of the Office Action that: "[t]he waveguide can take on any form so long as it transmits the generated signal." Again, applicant/appellant cannot agree. All waveguides are not equal just as, for example, all engines are not equal. A specific waveguide has been claimed and the waveguide as specifically defined should be examined and not a different waveguide.

(2)

CLAIMS 21-31 ARE NOT UNPATENTABLE UNDER 35 USC 103(a) OVER LÜTKE ET AL IN VIEW OF BACKMANN ET AL

Claim 21 defines the waveguide to include a flexible intermediate piece. This piece is shown in Figs.4 and 5. In claim 29, the flexible element is surrounded by a metal mesh. All Backmann et al teaches is a cable with co-extensive conductor bundles which surround a central supporting member. There is no teaching of a flexible intermediate piece or of a flexible intermediate piece surrounded by a metal mesh. There is no resemblance to a waveguide in Backmann et al. To combine it with Lütke et al would, quite frankly, be meaningless. The result would certainly not be a waveguide like that claimed in claims 21 or 29.

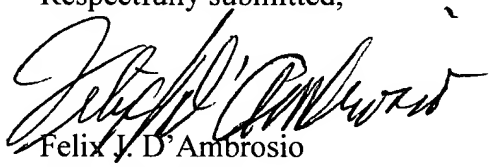
SUMMARY

In neither (1) or (2) has there been a showing made of a basis for combining to references identified. The person of ordinary skill in the art is desirous of having a monitoring apparatus without the high attenuation of the known apparatuses. There is no reason to believe that the SZ-twisted wire of Feese will achieve this objective, or that the bundles of Backmann et al can provide the necessary flexible element for connecting the adjacent pieces of the waveguide. There must be a basis for combining references. The cases on this point are numerous. For example, ***In re Oetiker***, 24 USPQ2d 1443 (Fed. Cir. 1991) which was cited in the Response of October 15, 2003, we can add ***In re Gordon***, 221 USPQ 1125 (Fed. Cir. 1984), ***In re Mills***, 16 USPQ2d 1430 (Fed. Cir. 1990) and ***In re Rouffet***, 47 USPQ2d 1453 (Fed. Cir.

1998).

The Federal Circuit has been very clear on their guidance in this area. If 35 Usc 103 is to be applied relying on two or more references, the suggestion must be real and it must emanate from the references. This is not the case here so that the examiner's rejections should be reversed so that claims 13-31 can be allowed.

Respectfully submitted,



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APPENDIX

13. An apparatus for determining and/or monitoring the filling level of a product or the position of the interface between two media or phases in a container, comprising:

a signal-generating unit which generates high-frequency measuring signals;

a waveguide which comprises a wire cable having a plurality of individual wires of a predetermined diameter which are twisted together;

a coupling-in unit for coupling in onto said waveguide the measuring signals, said waveguide extending in the direction of the product when the apparatus is mounted on the container; and

a receiving/evaluating unit for determining the filling level of the product or the position of the interface in the container via the delay time of the measuring signals reflected at the surface or interface of the product.

14. The apparatus as defined in claim 13, wherein said receiving/evaluating unit determines the filling level of the product or the position of the interface in the container directly or indirectly.

15. The apparatus as defined in claim13, wherein said waveguide comprises 19 individual wires formed into three layers.

16. The apparatus as defined in claim 13, wherein said individual wires form two layers with the wires in each layer twisted in opposite directions.

17. The apparatus as defined in claim 13, wherein said waveguide comprises a plurality of coaxial layers, the individual wires in the individual layers being twisted in the same

direction.

18. The apparatus as defined in claim 17, wherein said waveguide comprises 19 individual wires formed into three layers.

19. The apparatus as defined in claim 17, wherein the twisting of the individual wires in the individual layers is in opposite directions.

20. The apparatus as defined in claim 18, wherein the twisting of the individual wires in the individual layers is in opposite directions.

21. An apparatus for determining and/or monitoring the filling level of a product or the position of the interface between two media or phases in a container, comprising:

a signal-generating unit which generates high-frequency measuring signals;

a waveguide which comprises a plurality of pieces which are connected to one another via at least one flexible intermediate piece;

a coupling-in unit for coupling in onto said waveguide the measuring signals, said waveguide extending in the direction of the product when the apparatus is mounted on the container; and

a receiving/evaluating unit for determining the filling level of the product or the position of the interface in the container via the delay time of the measuring signals reflected at the surface or interface of the product.

22. The apparatus as defined in claim 21, wherein said flexible intermediate piece comprises a wire cable.

23. The apparatus as defined in claim 21, wherein said flexible intermediate piece comprises a universal joint.

24. The apparatus as defined in claim 21, wherein said pieces are tubes or rods.

25. The apparatus as defined in claim 24, wherein said flexible intermediate piece comprises a wire cable.

26. The apparatus as defined in claim 24, wherein said flexible intermediate piece comprises a universal joint.

27. The apparatus as defined in claim 24, wherein a crimped connection is provided between said piece and said flexible intermediate piece

28. The apparatus as defined in claim 27, further comprising:

a tubular mesh which encloses said flexible intermediate piece and which terminates essentially flush with the surfaces of said pieces

29. An apparatus for determining and/or monitoring the filling level of a product or the position of the interface between two media or phases in a container, comprising:

a signal-generating unit which generates high-frequency measuring signals;

a waveguide which comprises a flexible element which is surrounded on its surface by a metal mesh;

a coupling-in unit for coupling in onto said waveguide the measuring signals, said waveguide extending in the direction of the product when the apparatus is mounted on the container; and

a receiving/evaluating unit for determining the filling level of the product or the position of said interface in the container via the delay time of the measuring signals reflected at the surface or interface of the product.

30. The apparatus as defined in claim 29, wherein a defect is provided which

serves as a reference for the linear measurement in at least one predetermined region of said waveguide

31. The apparatus as defined in claim 30, wherein said at least one defect is defined by a change in the geometry of the waveguide.